IN THE UNITED STATES DISTRICT COURT FOR THE
WESTERN DISTRICT OF OKLAHOMA

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ROBERT D. DENNIS, CLERK
U.S. DIST. COURT, WESTERN DIST. OF OKLA.
BY ________ DEPUTY

FRANK'S CASING CREW & RENTAL TOOLS, INC.)
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Plaintiff,)
)
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vs.) No. CIV-01-104-F
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)
WEATHERFORD INTERNATIONAL, INC.)
)
Defendant.)

DOCKETED

O R D E R

I. Introduction.

The plaintiff, Frank's Casing Crew & Rental Tools, Inc., asserts that the defendant, Weatherford International, Inc., has infringed its patent. The patent, U.S. Patent No. 5,049,020, is for a device for positioning and handling joints of well casing while the casing string is being run into or pulled out of the hole during the drilling of an oil well. Specifically, the device is one for "engaging and positioning large diameter well casing," which may weigh as much as 300 pounds per foot, so that the threaded end of the joint may be made up to the threads at the end of the suspended casing string. In oilfield terms, the patented device is a "stabbing and positioning" device. Almost since the first rotary rig "made hole," inventors have sought to reduce the risk of injury and death by reducing workers' direct contact with the heavy joints of casing which must be handled on the rig. That is one of the primary purposes of the patented device.

This case presents "[t]he two elements of a simple patent case, construing the patent and determining whether infringement occurred." Markman v. Westview Instruments, Inc., 517 U.S. 370, 384 (1996). The first step, construing the patent, is "exclusively within the province of the court[,]" *id.* at 372, even if that process has "evidentiary underpinnings." *Id.* At 390. The second step – determining whether infringement occurred, either literally or under the doctrine of equivalents – presents a question of fact. IMS Technology, Inc. v. Haas Automation, Inc. 206 F.3d 1422, 1429 (Fed. Cir. 2000).

To facilitate the court's claim construction task, the court held what is commonly called a Markman hearing on March 5, 2002. At the hearing, the parties presented arguments and evidentiary aids in support of their contentions as to the proper construction of the claims which are in controversy. With the benefit of the parties' pre-hearing briefs, the outstanding advocacy at the hearing, and the post-hearing briefs, the court now construes the claims which are in controversy.

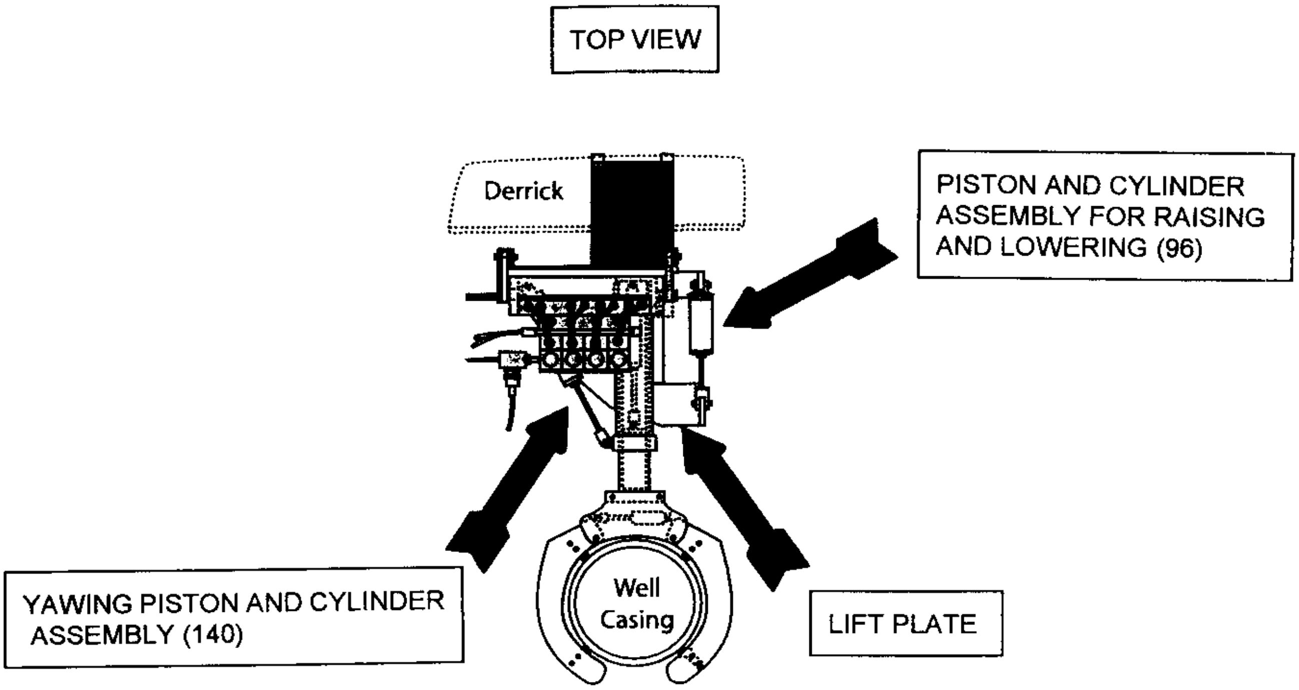
II. Summary of the parties' contentions.

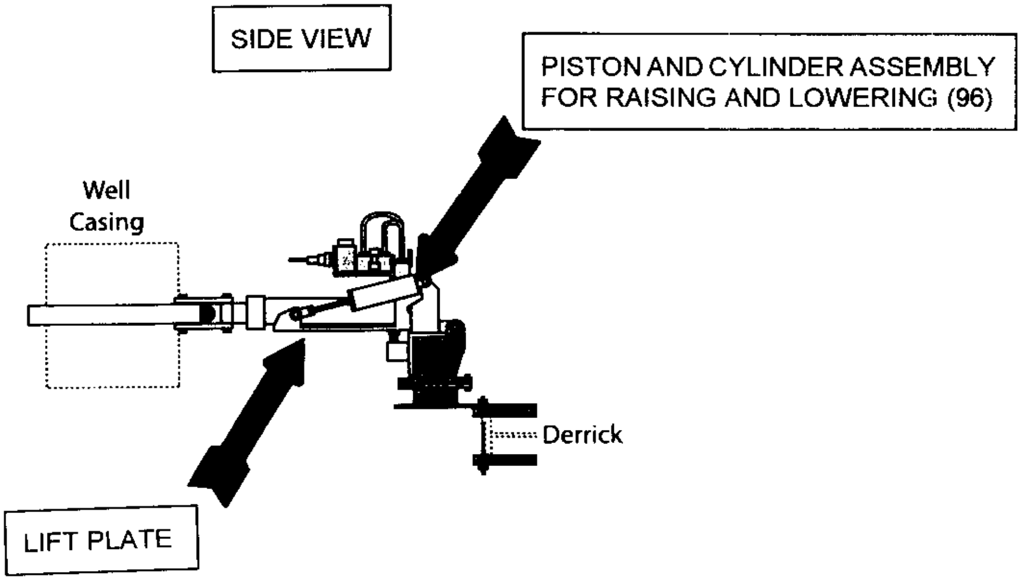
The '020 patent provides this brief description of the invention:

> This invention relates to apparatus for engaging and for positioning large diameter well casing, and more particularly, to an apparatus which can be mounted in a derrick extending upwardly over a drilling rig platform, and then can be controlled from a remote selectively variable location to engage a section of oil or gas well casing hanging from a crown block in the derrick, and can then be further used to steer and align the section of well casing so that the threads at one end thereof are prevented from cross threading with the threads of a casing section therebelow at the time when the two casing sections are threaded together.

(Emphasis added.)

Two of the figures in the patent depict a top view and a side view of the preferred embodiment of the invention as follows (the reference numbers have been removed):


TOP VIEW
Derrick
PISTON AND CYLINDER ASSEMBLY FOR RAISING AND LOWERING (96)
YAWING PISTON AND CYLINDER ASSEMBLY (140)
Well Casing
LIFT PLATE


SIDE VIEW
PISTON AND CYLINDER ASSEMBLY FOR RAISING AND LOWERING (96)
Well Casing
Derrick
LIFT PLATE

As can be seen, the boom and jaw subassembly engages the casing section with the two jaws. The boom is hydraulically extensible so that the jaws can "move outwardly until the desired position of the jaws around . . . the casing section has been achieved." '020 Patent, 16/28-31.[1] Once engaged, the jaws close, but "when the casing is engaged in this fashion, the casing can still spin about its axis because the rollers [in the jaws] can undergo rotation to accommodate such casing spinning movement." '020 Patent, 16/46-49.

The yawing piston and cylinder assembly enables the "extensible boom to pivot about the vertical axis . . ." '020 Patent, 16/33 - 34. This permits the operator to move a joint of casing from side to side within the confines of the derrick mast. The net effect is that "[w]hen the casing section has been thus engaged by the jaws, the operator of the casing stabbing apparatus, by appropriate manipulation of the toggle valves carried on the portable hand control wand or joy stick can cause the section of casing to be moved in small increments *in any direction*." '020 Patent, 16/51-56 (emphasis added). Thus, "the dangerous procedure of having a crew member manually manipulate the heavy casing section from a position high in the derrick is totally eliminated." '020 Patent, 17/1-4.

A. The patent claims with respect to the pivoting means. When the apparatus is not in use, a "hydraulic piston and cylinder assembly is retracted so that the boom is pulled upwardly." '020 Patent, 17/20-22. In other words, the boom and jaw assembly can swing up to get out of the way.

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[1] Citations thus: 16/28-31 are to the column and line of the '020 patent (e.g., Column 16, lines 28-31). Reference numbers are omitted from the text quotations.

As described in the specifications[2] section of the patent, the jaws can thus be moved in and out, side to side and up and down – all with thrust provided by hydraulics. In the invention as described in the patent, the piston and cylinder assembly which swings the boom up, to get it out of the way, is not – and cannot be – affixed to the boom itself. If the lifting and yawing piston rods were both affixed directly to the boom, they would, to put it mildly, interfere with each other. For that reason, the patent describes what the court considers to be an ingenious plate arrangement: the boom and jaw subassembly rests on an assemblage consisting of a "boom plate" and a "lift plate." '020 Patent, 11/5-18 (for convenience referred to herein only as lift plate). The boom and jaw subassembly is moved laterally on the lift plate by the yawing cylinder.[3] When the yawing cylinder moves the boom laterally, the boom moves independently of – and without interfering with – the lifting cylinder. In turn, the rod on the lifting cylinder assembly is attached to an ear on the lift plate, so that when the lifting cylinder is actuated to raise the boom, the boom and the yawing cylinder mechanism move as a unit. '020 Patent, 11/19 - 23. As articulated in the patent, when the lifting cylinder is retracted, "the effect of the retraction is to elevate the diagonal boom plate and the forwardly extending boom plate. This in turn elevates the extensible boom by pivoting the boom about a horizontal pivotal axis disposed within the boom housing subassembly." '020 Patent, 11/26-30.

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[2] The specification is that part of the patent which gives a complete description of the invention and how to make it and use it. 1 Chisum on Patents, p. Gl-21 (Matthew Bender 1980) ("Chisum"). The specification, which is functionally distinct from the patent claims, must describe the invention in such full, clear, concise and exact terms as to enable any person skilled in the art to make and use the same. 35 U.S.C. § 112. *See also,* Markman at 373.

[3] The hydraulic cylinder, piston and rod assemblies are referred to for convenience simply as cylinders.

Claims 6, 7 and 8 in the '020 Patent call for a means for pivoting the boom up and down as follows:

> Means for selectively pivoting said boom about said horizontal axis to raise and lower the second [outer] end of said boom which carries said jaws, and to elevate said boom to a location where it extends in a generally vertical direction . . . .

'020 Patent, 22/62-66 (Claim 6); 24/13-18 (Claim 7) and 25/22-28 (Claim 8).[4] Plaintiff asserts that claims 6, 7 and 8 place no limitation of the location of, or components connected to, the pivoting means. Plaintiff's Supplemental Markman Hearing Brief (filed March 20, 2002), at 10. Plaintiff consequently maintains that the boom and lift plates are clearly identified in the patent as being rigid, permanent components of another structure described in the preferred embodiment as the boom housing assembly, not of the hydraulic piston and cylinder subassembly. Pltf. Supp. Brief at 11.

Defendant, on the other hand, argues that the means-plus-function language quoted above should be construed to require a lift plate located under the boom – with the result that a device lacking that feature would not infringe these claims. Defendant's Post Hearing Brief (filed March 20, 2002), at 2. Specifically, defendant advocates the following construction:

> The means for selectively pivoting the boom about a horizontal axis to raise and lower the second end of the boom which carries the jaws and to elevate the boom to where it extends in a generally vertical direction,

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[4] The only variation in this verbiage in the three claims is that, in claim 8, "parked" appears immediately before "location."

> must necessarily include a lift plate located under the boom. The boom rests on the lift plate, and the boom is not connected to the lift plate. The boom moves back-and-forth across the lift plate. The boom is raised and lowered by a piston and cylinder that work against the lift plate, and not against the boom directly.

Deft. Post-Hrg. Brief, at 2.

B. The patent claims with respect to detachable mounting. It is clear that the patented device is intended to be movable from one rig to another. It is described as being "easily hoisted into the upper portion of a drilling derrick and stably secured to one of the cross members of the derrick." '020 Patent, 5/46-49. The three major subassemblies (boom and jaw, derrick bracket and remote control) "can be easily taken apart to facilitate transport, storage and operative mounting of the entire apparatus at a selected location in a drilling derrick and above the floor of the derrick." '020 Patent, 7/2-5. Otherwise stated, they are "easily disconnected from each other." '020 Patent, 17/46. The remote control panel assembly can be "quickly disconnected." '020 Patent, 17/49. The boom and jaw assembly "can be quickly disconnected from the derrick bracket subassembly." '020 Patent, 17/51-52.

As to this feature of the invention, defendant focuses on the following language in claims 6, 7 and 8:

Claim 6: "a derrick bracket subassembly detachably connected to a side of said derrick"

"a boom and jaw subassembly detachably connected to said derrick bracket subassembly"

"a remote control assembly detachably connected to said boom and jaw subassembly"

Claim 7: "a derrick bracket subassembly detachably connected to a side of said derrick"

"a boom and jaw subassembly connected to said derrick bracket subassembly"

"a remote control assembly including:

a plurality of power fluid control valves detachably mounted on said boom and jaw subassembly for selectively supplying power to said piston and cylinder subassemblies"

Claim 8: "a supporting frame means detachably connected to a side of said derrick"

"a boom and jaw subassembly detachably connected to said supporting frame means"

"a remote control assembly connected to said boom and jaw subassembly"

Defendant proposes the following construction of these claims:

> The term "detachably" when used with connected or mounted means that the connected or mounted parts can be easily and quickly taken apart or disconnected to facilitate transport, storage, and operative mounting of the entire apparatus at a selected location on a drilling derrick. This type of connection is also designed to be unfastened or disconnected without damage.

Deft's Post-Hrg. Brief, at 14.

Plaintiff contends that there is no intrinsic evidence suggesting that the claim language as to detachability should be given a special meaning and that it should accordingly be taken as is, with no gloss relating to ease of detachability. Pltf. Supp. Brief at 23.

III. Rules governing claim construction.

A. Extrinsic evidence. The trial court may receive extrinsic evidence "to educate itself about the patent and the relevant technology." Mantech Environmental Corporation v. Hudson Environmental Services, Inc. 152 F.3d 1368, 1373 (Fed. Cir. 1998). For that reason, the court did not hesitate to receive extrinsic evidence at the Markman hearing. But "the claims and the written description remain the primary and more authoritative sources of claim construction. Thus, they always must be considered and where clear must be followed." *Id.* In this case, the extrinsic evidence which has been received from both parties has served no purpose other than to educate the court about the plaintiff's invention and the operational setting in which the apparatus must function. The extrinsic evidence has served that purpose well, but it has served no other purpose. The task of claim construction in this case will be accomplished on the basis of the intrinsic evidence, consisting of the claims and the specification in the patent itself, as well as the relevant prosecution history. Vitronics Corporation v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). That intrinsic evidence is "the most significant source of the legally operative meaning of the disputed claim language." *Id.*

B. Construction of means-plus-function claims. The parties agree that the "pivoting means" claims are "means plus function claims." They are made so by the fact that they contain language which clearly triggers 35 U.S.C. § 112 ¶ 6, which states as follows:

> An element in a claim for a combination may be expressed as a *means* or step for performing a *specified function* without the recital of structure, material or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts *described in the specification* and *equivalents* thereof.

(Emphasis added.)

This provision, enacted in 1952 to overrule the Supreme Court's decision in Halliburton Oil Well Cementing Co. V. Walker, 329 U.S. 1 (1946), enables an inventor, subject to certain limitations, to describe an element of his invention in terms of what it *does* (i.e., function), rather than in terms of what it *is* (i.e., structure). *See, generally,* 5A Chisum, § 18.03[5]. The second clause of ¶ 6 places a significant limitation on the applicant's use of means-plus-function language:

> A claim limitation described as a means for performing a function, if read literally, could encompass any conceivable means for performing the function. This second clause confines the breadth of protection otherwise permitted by the first clause. The applicant must describe in the patent specification some structure which performs the specified function. Moreover, a court must construe the functional claim language "to cover the corresponding structure, material or acts described in the specification and equivalents thereof."

Valmont Industries, Inc. V. Reinke Mfg. Company, Inc., 983 F.2d 1039, 1041 (Fed. Cir. 1993) (internal citations omitted; quoting § 112 ¶ 6).

Not only is a means-plus-function claim to be construed to cover the corresponding structure and its equivalents, it must be construed *"in light of* the corresponding structure" and its equivalents, Fonar Corporation v. General Electric Co., 107 F.3d 1543, 1551 (Fed. Cir. 1997), *cert. denied* 522 U.S. 908 (1997) (emphasis added), because, in a § 112 ¶ 6 claim, it is the structure described in the specification which provides the description of the "corresponding structure," which is, in turn, the measure for equivalency. *See, generally,* 5A Chisum, § 18.03[5][d][i]. A means-plus-function clause thus "does not cover *every means* for performing the specified function." Laitram Corporation v. Rexnord, Inc., 939 F.2d 1533, 1536 (Fed. Cir. 1991) (emphasis in original). Both the text and the judicial treatment of § 112 ¶ 6 establish that a means-plus-function claim is *limited* to the disclosed structure and its equivalents. Fonar, 107 F.3d at 1551. Plaintiff has acknowledged as much. Pltf. Supp. Brief at 6. The "equivalents" which are protected by a § 112 ¶ 6 claim are "those means that are equivalent to the actual means shown in the patent specification." Al-Site Corporation v. VSI International, 174 F.3d 1308, 1320 (Fed. Cir. 1999) (internal quote from Warner-Jenkinson Co. V. Hilton Davis Chem. Co., 520 U.S. 17 (1997) omitted). Thus, although the coverage of a § 112 ¶ 6 claim is certainly not limited to the preferred embodiment disclosed by the applicant, the structure disclosed by the specifications is of special importance in construing a § 112 ¶ 6 claim. Claim construction cases which do not involve § 112 ¶ 6 claims, e.g., Transmatic, Inc. V. Gulton Industries, Inc., 53 F.3d 1270 (Fed. Cir. 1995), must be read with that difference in mind.

C. Prosecution history. Prosecution history – the record of the proceedings before the Patent and Trademark Office, including any express representations made by the applicant as to the scope of the claims – may be considered in claim construction under § 112 ¶ 6 or otherwise. *See, e.g.*, Medtronic, Inc. v. Intermedics, Inc., 799 F.2d 734, 742 (Fed. Cir. 1986), *cert. denied* 479 U.S. 1033 (1987) (§ 112 ¶ 6 claim) and Vitronics v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Thus, prosecution history is a useful claim construction tool independent of any estoppel issues. Ballard Medical Products v. Allegiance Healthcare Corp., 268 F.3d 1352, 1358 (Fed. Cir. 2001); McGill, Inc. v. John Zink Co., 736 F.2d 666, 673 (Fed.

Cir. 1984). It is noteworthy, in the context of the issues in this case, that, just as prosecution history estoppel may estop an equivalence argument, positions taken before the PTO may bar an inconsistent position on claim construction under § 112 ¶ 6. Ballard at 1359; Alpex Computer Corp. V. Nintendo Co. Ltd., 102 F.3d 1214 (Fed. Cir. 1996), *cert. denied*, 521 U.S. 1104 (1997). Statements detailing the shortcomings of the relevant prior art have often proved useful in construing § 112 ¶ 6 claims. Ballard at 1359. Thus, if the patentee noted that the structure used by certain prior art was *incapable of achieving the desired results*, that argument has been held to be an explicit disavowal of prior art structure. *Id.*

D. Claim differentiation. Under the judicially-created doctrine of claim differentiation, each claim in a patent is presumptively different in scope. Wenger Mfg. Inc. v. Coating Machinery Systems, Inc. 238 F.3d 1225, 1233 (Fed. Cir. 2001). Where the natural tendency to attribute a different meaning to each claim collides with the dictates of § 112 ¶ 6, the statutory language will prevail. *Id.* However, claim differentiation does not lose all of its force when means-plus-function claims must be construed (for instance where a limitation found in a dependent claim is sought to be read into an independent claim). *Id.*

IV. Analysis.

A. The pivoting means claims. In construing the pivoting means claims, the court is informed by the patent's specifications, the text of the claims which are in issue as well as those which are not, the prosecution history and the relevant statutory and decisional law.

Plaintiff maintains, correctly, that "claims 6, 7 and 8 of the '020 Patent contain absolutely no requirements or limitations as to where the hydraulic cylinder must be located or what it must be connected to." Pltf's Response to Deft's Initial Brief on Patent Claim Construction (filed Dec. 12, 2001), at 5. That being the case, what is protected under § 112 ¶ 6 is the disclosed structure and its equivalents. It may be that, with or without defendant's proposed construction of the pivoting means claims, no reasonable jury could find that a device with a lifting cylinder attached directly to the boom is equivalent to the structure described in the specification. But that issue is not now before the court, and the court is not free to pretermit the first step – claim construction. TechSearch, L.L.C. v. Intel Corp., 286 F.3d 1360, 1369 (Fed. Cir. 2002).

Defendant would have the court construe the pivoting means claim to expressly exclude a lifting cylinder connected to the boom; plaintiff would have the court construe the claims to expressly permit a lifting cylinder connected to the boom. *See*, Deft. Post-Hearing Brief, at 2 (defendant's contention); Plaintiff's Initial Brief on Claim Construction Issues, filed December 5, 2001, at 11, 14 (plaintiff's contention). The claim language does not, of course, expressly call for either design.

In resolving the issues as to construction of the pivoting means claims, the court is mindful that § 112 ¶ 6 reads the way it does because, even though Congress desired to overrule the Halliburton decision, a patent of the kind we have here clearly cannot be allowed to cover a *function* rather than a *device*. *See, generally,* 1 Chisum, § 1.03[7]. It is also essential to return to the language of § 112 ¶ 6 to note that ¶ 6 limits means-plus-function claims to the structure *described in the specification* and its equivalents. Thus, the coverage of a § 112 ¶ 6 claim does not extend to *any* structure which might conceivably fall within the ambit of the claim language. Valmont Industries, Inc. V. Reinke Mfg. Company, Inc., 983 F.2d 1039, 1042 (1993). The claim language, if literally broader than the specification (as will usually be the case), is circumscribed by the structure disclosed in the specification. Valmont, at 1042 (Congress "provided a standard to make the broad claim language more definite."). The draftsman who chooses to use means-plus-function language knows that the claims he drafts will protect nothing beyond the disclosed structure and its equivalents. In the case at bar, the specification leaves no room for speculation about the structure of the patented apparatus.

For these reasons, although the court declines defendant's invitation to decide the equivalency issue at this juncture, the court, drawing on the totality of the permissible sources of guidance, concludes that the construction which best respects the words used in the patent and conforms to the controlling rules of construction is that the means for selectively pivoting the boom about the horizontal axis to raise and lower the end of the boom must necessarily include a lift plate located under the boom. The boom rests on the lift plate, and the boom is not connected to the lift plate. The boom moves back-and-forth across the lift plate. The boom is raised and lowered by a piston and cylinder that operate against the lift plate, and not directly against the boom.

This construction is consonant with the specifications and claims in the '020 Patent, read in light of the requirements of § 112 ¶ 6. This construction is also consistent with the prosecution history of the '020 Patent.

The '020 Patent recites that it is a continuation of Application Ser. No. 203,252 (the "Parent Application"), which issued as Patent No. 4,921,386. To establish patentability of the device which was the subject of the Parent Application, the applicant was required to address the casing handling device described in the Swoboda, Jr. et al. Patent, No. 3,840,128. The Swoboda structure used a lifting cylinder positioned *under* the boom and *attached directly* to the boom. In urging patentability of the device now disclosed in the '020 patent, the applicant for the '020 Patent pointedly distinguished the Swoboda device, arguing correctly that where the lifting cylinder is "located directly below the boom and directly connected thereto, a yawing piston and cylinder subassembly which extends at an acute angle to the longitudinal axis of the boom, and is attached at one end to a different part of the boom and jaw subassembly, and can cause the boom to cant or swing from side-to-side, simply cannot be used." May 19, 1989 Amendment in response to March 3, 1989 PTO action in Application No. 203,252, at 41 (emphasis in original). The applicant went on to argue that the "spatial and positioning limitation" in Swoboda "is overcome in the present invention by connecting the [cylinder which lifts the boom] not directly to the boom, but by connecting it indirectly to the boom through securement" to the lifting plate. *Id.* at 42 (emphasis in original). These arguments to the PTO bring into high relief the significance of the structure of the pivoting means actually disclosed in the specification of the '020 Patent.[5] That structure is as important as a matter of simple mechanics as it is under the second clause of § 112 ¶ 6. It defines the invention both legally and as a mechanical matter.

B. The claims with respect to detachable mounting. The parties' contentions as to the claims with respect to detachable mounting are summarized on pages 7 and

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[5] Defendant has asserted that the May 19, 1989 Amendment argued that the Swoboda arrangement "simply cannot be used" in the device in the '020 Patent. Defendant's Initial Brief on Patent Claim Construction, filed December 5, 2001, at 8. This assertion is clearly incorrect. It is plain from the passage quoted above that the applicant was pointing out that, if the Swoboda lifting arrangement were used (i.e., cylinder under the boom and attached directly thereto), the yawing piston and cylinder subassembly described in the then-pending application is what "simply cannot be used."

8, above. The terms "detachably connected" or "detachably mounted" are used in several places in Claims 6, 7 and 8. These terms are applied variously to the derrick bracket subassembly, the boom and jaw subassembly, the remote control subassembly and the power fluid control valves. As is discussed on p. 7, above, the specifications repeatedly emphasize the portability of the device as well as the speed and ease with which its three major subassemblies may be disconnected. Plaintiff asserts that no gloss need be put on the words used in the '020 Patent – detachable simply means detachable – and that the patent calls for no limitations on the meaning of that word. This argument is not without force.

As is shown by defendant's proposed construction, quoted on page 8, above, defendant seeks some elaborate embroidery on the term "detachably."

The court has concluded that the matter is neither as simple as plaintiff suggests nor as complicated as defendant urges. The court does not believe that a detailed construction should be engrafted onto the claims that use "detachably connected." The court's construction of the term "detachably connected," where it is used in the claims which are at issue (e.g., "a derrick bracket subassembly detachably connected to a side of said derrick"), is that the term means that the component or subassembly in question may be readily disconnected. This construction is responsive to the specification in the patent, where it is made clear that the utility of the disclosed device lies in part in the fact that its major subassemblies may be quickly and easily disassembled. This construction gives the term "detachably," viewed in the context in which it is used, a natural meaning.

CONCLUSION

It is hereby **ORDERED** that the claims in question will be construed for all purposes in this action as set forth above. Now that the claim construction phase of this matter has been concluded, the parties will proceed as set forth in the scheduling order.

Dated July 22, 2002

STEPHEN P. FRIOT
UNITED STATES DISTRICT JUDGE

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